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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,691	05/22/2001	Odie Banks Killen JR.	ERLG.P-020	5311
21121 7590 06/08/2004 OPPEDAHL AND LARSON LLP P O BOX 5068 DILLON, CO 80435-5068			EXAMINER MEW, KEVIN D	
			ART UNIT	PAPER NUMBER
			2664	
DATE MAILED: 06/08/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

.09/681,691

Applicant(s)

KILLEN ET AL.

Examiner

Kevin Mew

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/22/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. S2000/0711 and S2000/0706.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Detailed Action***

***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Ireland on 9/7/2000. It is noted, however, that applicant has not filed a certified copy of the S2000/0711 and S2000/0706 applications as required by 35 U.S.C. 119(b).

***Specification***

2. The abstract of the disclosure is objected to because the abstract heading should not include the title of the patent application, "Fibre-Channel Arbitrated-Loop Split Loop Operation." Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: both "Loop A" and "Loop B" are not described in the specification and the drawings that it is unclear as to what paths "Loop A" and "Loop B" are comprised of. Appropriate correction is required.

***Claim Objections***

3. Claim 1 is objected to because of the following informalities:

In lines 3 and 8, the limitation "first switch" is recited. It is unclear whether this "first switch" is a separate switch itself or one of the said "pair of switches," recited in line 8 of the claim. Appropriate correction is required.

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***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said devices" in lines 6, 10, 11. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-3, 7** are rejected under 35 U.S.C. 102(e) as being anticipated by Hahn et al. (USP 5,991,891).

Regarding claim 1, Hahn discloses an enclosure services processor card (**enclosure 102**, see line Fig. 2) arranged to selectively split a fibre channel arbitrated-loop (FC-AL) (**Fibre Channel Arbitrated Loop (FC-AL)**, see lines 42-44, col. 3) into two split loops (**primary Fibre Channel Loop 110 and secondary Fibre Channel loop**

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**116 are utilized and maintained by a loop coherency circuit**, see lines 33-64, col. 3), said card being adapted to plug into a backplane for a rack enclosure (**loop system**, see element 100, Fig. 2) and including a first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 2) operatively connected to a hub (**a hub is interpreted as a combination of the enclosures 102, 104, 106**, see Fig. 2) for said FC-AL, said hub comprising a plurality of port bypass circuits (**Port Bypass Circuits**, see lines 61-64, col. 2, see elements 124, 146 in enclosures 102, 104, 106, respectively; note that first multiplexer and second multiplexes 124, 126 of each enclosure are interpreted as port bypass circuits), each port bypass circuit being connected to a pair of tracks (**a pair of tracks is connected to each MUX 126 of enclosures 102, 104, 106**, see Fig. 2) which in use connect to a respective one of each of said devices (**disk devices**, see elements 108, Fig. 2) comprising said fibre channel arbitrated loop (**Fibre Channel Arbitrated Loop**, see element 100, Fig. 2), said hub further comprising a pair of switches (**MUX 124 and MUX 126**, see lines 11-19, col. 4 and Fig. 2) operatively controlled by said first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 2), said pair of switches (**MUX 124 and MUX 126**, see lines 11-19, col. 4 and Fig. 2) being disposed between respective port bypass circuits (see elements 124, 126 of the three enclosures **102, 104, 106**, Fig. 2) at which said loop (**Fibre Channel Arbitrated Loop**, see element 100, Fig. 2) is to be split so that in a first state (**steady state**) said pair of switches (MUX 124 and MUX 126 of enclosure 102, see Fig. 2) connect said devices in a single loop (**primary loop**) and in a second state (**a break in the primary loop or a node failure**) said pair of switches divide said devices into two split loops (**primary loop and secondary loop**, see lines 55-67, col. 3 and lines 1-7, col. 4).

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Regarding claim 2, Hahn discloses an enclosure services card (enclosure 102, see line Fig. 5) as claimed in claim 1 wherein said card includes an enclosure services processor (**the detector circuits**, see elements 134, 136, Fig. 5) operatively connected to said first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 5), said enclosure services processor (**the detector circuits**, see elements 134, 136, Fig. 5) being operable to selectively control said first switch to split said fibre-channel devices into two split loops (**control the switching of the multiplexers 124, 146 upon detecting a loop incoherency condition**, see lines 54-60, col. 5).

Regarding claim 3, Hahn discloses an enclosure services card as claimed in claim wherein said first switch (**loop coherency circuit**, see lines 11-19, col. 4 and element 122, Fig. 5) comprises a jumper (**the detector circuits**, see elements 134, 136, Fig. 5), said jumper being configurable to selectively split said fibre-channel devices into two split loops (**control the switching of the multiplexers 124, 146 upon detecting a loop incoherency condition**, see lines 54-60, col. 5).

Regarding claim 7, Hahn discloses a rack enclosure (**loop system**, see element 100, Fig. 2) comprising a processor card as claimed in claim 1, a backplane (**see the backplane that comprises enclosures 102, 104, 106, Fig. 2**) and a plurality of devices (see elements 108, Fig. 2) connected to said backplane forming one or more fibre channel arbitrated loops (see lines 42-47, col. 3).

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*Allowable Subject Matter*

6. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 4, an enclosure services card as claimed in claim 1 wherein said hub further comprises a further port bypass circuit being connected to a pair of tracks which in use connect to an expansion port through which a further one or more devices can be connected to said loop.

*Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure with respect to fiber channel arbitrated-loop spit loop operation.

US Patent 6,718,139 to Finan et al.

US Patent 6,101,012 to Danagher et al.

US Patent 6,538,815 to Cao

US Patent 5,546,378 to Wirth et al.

US Patent 6,381,218 to McIntyre et al.

US Patent 6,631,481 to Hoard et al.

US Patent 6,000,020 to Chin et al.

US Publication 2002/0106146 to Luader et al.

US Publication 2002/0105692 to Lauder et al.

US Publication 2002.0019958 to Cantwell et al.

US Publication 2004/0076365 to Ramaswami et al.



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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300.

The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KDM  
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WELLINGTON CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600